

Title (en)
ANTIBACTERIAL MATERIAL AND ANTIBACTERIAL FILM AND ANTIBACTERIAL MEMBER USING THE SAME

Title (de)
ANTIBAKTERIELLES MATERIAL UND ANTIBAKTERIELLER FILM SOWIE ANTIBAKTERIELLES ELEMENT DAMIT

Title (fr)
MATÉRIAU ANTIBACTÉRIEN ET FILM ANTIBACTÉRIEN ET ARTICLE ANTIBACTÉRIEN UTILISANT CEUX-CI

Publication
EP 2255878 A4 20110928 (EN)

Application
EP 09717571 A 20090304

Priority
• JP 2009000981 W 20090304
• JP 2008054141 A 20080304
• JP 2008054143 A 20080304
• JP 2008324275 A 20081219

Abstract (en)
[origin: EP2255878A1] An antibacterial material includes at least one microparticles selected from tungsten oxide microparticles and tungsten oxide complex microparticles. The microparticles, which are undergone a test to evaluate viable cell count by inoculating in a test piece, to which the microparticles are adhered in a range of 0.02 mg/cm² or more and 40 mg/cm² or less, at least one bacterium selected from among Staphylococcus aureus, Escherichia coli, Klebsiella pneumoniae, Pseudomonas aeruginosa, methicillin-resistant Staphylococcus aureus, and enterohemorrhagic Escherichia coli, and storing for 24 hours, have an antibacterial activity value R of 0.1 or more expressed by the following: $R = \log B_1 / C_1$ (where, B₁ denotes an average value (number) of viable cell count after storing an untreated test piece for 24 hours, and C₁ denotes an average value (number) of viable cell count after storing the test piece on which the microparticles are coated for 24 hours).

IPC 8 full level
B01J 35/02 (2006.01); **B01J 23/30** (2006.01); **B01J 23/34** (2006.01); **B01J 23/56** (2006.01); **C09D 7/61** (2018.01)

CPC (source: EP US)
A61L 2/232 (2013.01 - EP US); **A61L 2/238** (2013.01 - EP US); **A61L 9/012** (2013.01 - EP US); **A61L 9/014** (2013.01 - EP US); **B01J 23/30** (2013.01 - EP US); **B01J 23/34** (2013.01 - EP US); **B01J 23/6527** (2013.01 - EP US); **B01J 23/687** (2013.01 - EP US); **B01J 23/888** (2013.01 - EP US); **B01J 35/39** (2024.01 - EP US); **B82Y 30/00** (2013.01 - EP US); **C01G 41/00** (2013.01 - EP US); **C01G 41/02** (2013.01 - EP US); **C09D 5/14** (2013.01 - EP US); **C09D 7/61** (2018.01 - EP US); **C09D 7/67** (2018.01 - EP US); **C09D 7/68** (2018.01 - EP US); **A61L 2209/21** (2013.01 - EP US); **B01J 35/40** (2024.01 - EP US); **B01J 37/0036** (2013.01 - EP US); **C01P 2002/52** (2013.01 - EP US); **C01P 2002/72** (2013.01 - EP US); **C01P 2004/62** (2013.01 - EP US); **C01P 2004/64** (2013.01 - EP US); **C01P 2006/12** (2013.01 - EP US); **C08K 3/22** (2013.01 - EP US)

Citation (search report)
• [X] US 2004139888 A1 20040722 - YADAV TAPESH [US], et al
• [XY] EP 1801815 A1 20070627 - SUMITOMO METAL MINING CO [JP]
• [X] M. PHAM THI ET AL.: "RAMAN STUDY OF WO₃ THIN FILMS", SOLID STATE IONICS, vol. 14, 31 December 1984 (1984-12-31), pages 217 - 220, XP002656915
• [X] M. LADOUCEUR ET AL.: "PLASMA-SPRAYED SEMICONDUCTOR ELECTRODES:PHOTOCHEMICAL CHARACTERIZATION AND NH₃ PHOTOPRODUCTION BY SUBSTOICHIOMETRIC TUNGSTEN OXIDES", J. PHYS. CHEM, vol. 94, 31 December 1990 (1990-12-31), pages 4579 - 4587, XP002656977
• [XY] M. PENZA ET AL.: "NO_x GAS SENSING CHARACTERISTICS OF WO₃ THIN FILMS ACTIVATED BY NOBLE METALS (Pd, Pt, Au) LAYERS", SENSORS AND ACTUATORS B, 31 December 1998 (1998-12-31), pages 52 - 59, XP002656978
• [XY] HIROHARU KAWASAKI: "PROPERTIES OF METAL DOPED TUNGSTEN OXIDE THIN FILMS FOR NOX GAS SENSORS GROWN BY PLD METHOD COMBINED WITH SPUTTERING PROCESS", SENSORS AND ACTUATORS B, vol. 100, 31 December 2004 (2004-12-31), pages 266 - 269, XP002656979
• [XY] BHUIYAN, M.H. ET AL.: "GAS SENSING PROPERTIES OF METAL DOPED WO₃ THIN FILM SENSORS PREPARED BY PULSED LASER DEPOSITION AND DC SPUTTERING PROCESS", JAPANESE JOURNAL OF APPLIED PHYSICS, vol. 45, 31 December 2006 (2006-12-31), pages 8469 - 8472, XP002656980
• [XYI] TETSU TATSUMA ET AL.: "BACTERICIDAL EFFECT OF AN ENERGY STORAGE TiO₂-WO₃ PHOTOCATALYST IN DARK", ELECTROCHEMISTRY COMMUNICATIONS, vol. 5, 31 December 2003 (2003-12-31), pages 793 - 796, XP002656981
• [X] YAFENG GUO ET AL.: "HIGH PHOTOCATALYTIC CAPABILITY OF SELF-ASSEMBLED NANOPOROUS WO₃ WITH PREFERENTIAL ORIENTATION OF (002) PLANES", ENVIRON. SCI. TECHNOL., vol. 41, 31 December 2007 (2007-12-31), pages 4422 - 4427, XP002656982
• See also references of WO 2009110233A1

Cited by
EP3461336A1; CN109566648A; WO2015091993A1; US10737241B2

Designated contracting state (EPC)
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK TR

DOCDB simple family (publication)
EP 2255878 A1 20101201; **EP 2255878 A4 20110928**; **EP 2255878 B1 20171227**; JP 2015120162 A 20150702; JP 5957175 B2 20160727; JP 5959675 B2 20160802; JP WO2009110233 A1 20110714; TW 200950885 A 20091216; TW I404569 B 20130811; US 11896966 B2 20240213; US 2011052662 A1 20110303; US 2020338543 A1 20201029; WO 2009110233 A1 20090911

DOCDB simple family (application)
EP 09717571 A 20090304; JP 2009000981 W 20090304; JP 2010501800 A 20090304; JP 2015025563 A 20150212; TW 98107070 A 20090304; US 202016872554 A 20200512; US 87484910 A 20100902